

To correct NOTE after paragraph (c).

[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [61 FR 29003 NO. 111 06/07/96]

[Docket No. 91-ANE-29; Amendment 39-9470; AD 91-21-01 R1]

RIN 2120-AA64

Airworthiness Directives; Textron Lycoming Model TIO-540-S1AD Reciprocating Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment revises an existing airworthiness directive (AD), applicable to Textron Lycoming Model TIO-540-S1AD reciprocating engines, that currently requires the upgrade of the engine exhaust system to a new design configuration; and also establishes inspection intervals for engines incorporating the new design configuration, for engines incorporating the design configuration required by a previous AD, and for engines not yet incorporating either design configuration. This amendment clarifies that an exhaust system disassembly is not necessary when inspecting the exhaust system after the installation of the new design One-piece Exhaust Riser Kit, and Manifold Retaining Kit. This amendment is prompted by reports from operators requesting clarification of two paragraphs in the compliance section. The actions specified by this AD are intended to prevent cracking or distortion of engine exhaust system flanges, V-band coupling, and pipes, which could result in engine compartment fire and smoke entering the cabin with possible loss to the aircraft.

DATES: Effective June 27, 1996.

The incorporation by reference of certain publications listed in the regulations was approved by the Director of the Federal Register as of November 4, 1991.

Comments for inclusion in the Rules Docket must be received on or before August 6, 1996.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Assistant Chief Counsel, Attention: Rules Docket No. 91-ANE-29, 12 New England Executive Park, Burlington, MA 01803-5299. Comments may also be submitted to the Rules Docket by using the following Internet address: "epd-adcomments@mail.hq.faa.gov".

The service information referenced in this AD may be obtained from Textron Lycoming/Subsidiary of Textron Inc., Williamsport, PA 17701; (717) 327-7278, fax (717) 327-7022. This information may be examined at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Richard Fiesel, Aerospace Engineer, New York Aircraft Certification Office, FAA, Engine and Propeller Directorate, 10 Fifth St., 3rd Floor, Valley Stream, NY 11581-1200; telephone (516) 256-7504, fax (516) 568-2716.

SUPPLEMENTARY INFORMATION:

On September 18, 1991, the Federal Aviation Administration (FAA) issued airworthiness directive (AD) 91-21-01, Amendment 39-8048 (56 FR 51646, October 15, 1991), to require the modification of all affected Textron Lycoming Model TIO-540-S1AD reciprocating engines by upgrading the engine exhaust system; and repetitive inspections of the exhaust system for engines incorporating the new design configuration, for engines incorporating the design configuration required by the existing AD, and for engines not yet incorporating either design configuration. That action was prompted by reports of failures of exhaust systems due to exhaust pipes that were misaligned and misassembled, or both. That condition, if not corrected, could result in cracking or distortion of engine exhaust system flanges, V-band coupling, and pipes, which could result in engine compartment fire and smoke entering the cabin with possible loss to the aircraft.

Since the issuance of that AD, the FAA has received reports from operators requesting clarification of two paragraphs in the compliance section. Operators have incorrectly interpreted these compliance paragraphs, (b)(2)(i) and (b)(2)(ii), as requiring disassembly of the exhaust system after installation of the new design One-piece exhaust Riser and Manifold Retaining Kits. This revised AD adds paragraph.(b)(2)(iii) to clarify that disassembly and re-inspection are not required after compliance with paragraph (b)(2)(i) of this AD.

The FAA has reviewed and approved the technical contents of Textron Lycoming Service Bulletin (SB) No. 484, dated January 30, 1989, that describes the inspection, alignment, and modification of the original exhaust assembly, and Textron Lycoming No. SB 499A, dated June 14, 1991, that describes the installation of the redesigned one-piece exhaust pipe configuration.

Since an unsafe condition has been identified that is likely to exist or develop on other engines of this same type design, this AD revises AD 91-21-01 to clarify that an exhaust system disassembly is not necessary when inspecting the exhaust system after the installation of the new design One-piece Exhaust Riser Kit, and Manifold Retaining Kit. The actions are required to be accomplished in accordance with the SB's described previously.

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under the caption "ADDRESSES." All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 91-ANE-29." The postcard will be date stamped and returned to the commenter.

The regulations adopted herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption "ADDRESSES."

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 USC 106(g), 40101, 40113, 44701.

§39.13 - [AMENDED]

2. Section 39.13 is amended by removing Amendment 39-8048 (56 FR 51646, October 15, 1991) and by adding a new airworthiness directive, Amendment 39-9470, to read as follows:

91-21-01 R1 Textron Lycoming : Amendment 39-9470. Docket 91-ANE-29. Revises AD 91-21-01, Amendment 39-8048, which superseded AD 89-12-04, Amendment 39-6214.

Applicability: Textron Lycoming Model TIO-540-S1AD reciprocating engines installed on but not limited to Piper PA-32 series aircraft.

NOTE: This airworthiness directive (AD) applies to each engine identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For engines that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must use the authority provided in paragraph (c) to request approval from the Federal Aviation Administration (FAA). This approval may address either no action, if the current configuration eliminates the unsafe condition, or different actions necessary to address the unsafe condition described in this AD. Such a request should include an assessment of the effect of the changed configuration on the unsafe condition addressed by this AD. In no case does the presence of any modification, alteration, or repair remove any engine from the applicability of this AD.

Compliance: Required as indicated, unless accomplished previously.

To prevent cracking or distortion of engine exhaust system flanges, V-band coupling, and pipes, which could result in engine compartment fire and smoke entering the cabin with possible loss to the aircraft, accomplish the following:

(a) For engines which have not complied with AD 89-12-04, paragraph (d), or Textron Lycoming Service Bulletin (SB) No. 484, Part II, dated January 30, 1989, on the effective date of this AD, accomplish the following:

(1) Within 25 hours time in service (TIS) after the effective date of this AD, install Crossover Exhaust Pipe Kit (05K21125) in accordance with Textron Lycoming SB No. 484, Part II, dated January 30, 1989, and also install new design One-piece Exhaust Riser Kit (05K21503) and Manifold Retainer Kit (05K19650-S) in accordance with Textron Lycoming SB No. 499A, dated June 14, 1991.

NOTE: Instructions and notes relating to marking the slip joints, rotating the exhaust pipes for alignment, and maintaining clearances at critical locations during the above installation are contained in Textron Lycoming SB No. 499A, dated June 14, 1991.

(2) Thereafter, at intervals not to exceed 100 hours TIS, accomplish the following:

(i) Inspect the exhaust system for heat damage, distortion, cracks or excessive wear in accordance with Textron Lycoming SB No. 484, Part II, dated January 30, 1989.

(ii) Inspect the exhaust system for clearance dimensions, proper fastener torque and slip joint engagement in accordance with paragraphs 10, 11, and 12 of Textron Lycoming SB No. 499A, dated June 14, 1991.

(iii) Repair or replace damaged parts with serviceable parts prior to further flight.

(b) For engines that have complied with all portions of AD 89-12-04, or Textron Lycoming SB No. 484, dated January 30, 1989, on the effective date of this AD, accomplish the following:

(1) Within 25 hours TIS after the effective date of this AD, and thereafter, at intervals not to exceed 25 hours TIS until the new design One-piece Exhaust Riser Kit (05K21503) has been installed in accordance with paragraph (b)(2)(i) of this AD, accomplish the following:

(i) Inspect all exhaust system joints, flanges, couplings and brackets for heat damage, distortion, cracks or excessive wear, in accordance with Textron Lycoming SB No. 484, dated January 30, 1989.

(ii) Inspect the exhaust system for proper slip joint engagement by measuring distances between pipe end points in accordance with Appendix 1 of this AD.

(iii) If damage is observed in the exhaust system or measurements exceed allowable dimensions, repair or replace parts with serviceable parts, as necessary prior, to further flight.

(iv) Reassemble and align exhaust system in accordance with Textron Lycoming SB No. 484, dated January 30, 1989, and Appendix 1 of this AD.

(2) Within 75 hours TIS after the effective date of this AD, accomplish the following:

(i) Install new design One-piece Exhaust Riser Kit (05K21503) and manifold retainer kit (05K19650-S) in accordance with Textron Lycoming SB No. 499A, dated June 14, 1991.

(ii) Thereafter, at intervals not to exceed 100 TIS, perform exhaust system inspections specified in paragraph (a)(2)(i) and (a)(2)(ii) of this AD. Operators need to determine the minimum engagement of only exhaust pipes LW-16102 and LW-16103 by referring to Appendix 1 of this AD.

(iii) The repetitive 25 hours TIS inspections required by paragraph (b)(1) of this AD are not required after installation of the new design One-piece Exhaust Riser Kit (05K21503) and the Manifold Retainer Kit (05K19650-S) in accordance with paragraph (b)(2)(i) of this AD.

(c) An alternative method of compliance or adjustment of the initial compliance time that provides an acceptable level of safety may be used if approved by the Manager, New York Aircraft Certification Office. The request should be forwarded through an appropriate FAA Maintenance Inspector, who may add comments and then send it to the Manager, New York Aircraft Certification Office.

NOTE: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the New York Aircraft Certification Office.

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the inspection may be performed.

(e) The actions required by this AD shall be done in accordance with the following Textron Lycoming SB's:

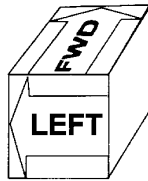
Document No.	Pages	Date
No. 484	1-4	January 30, 1989
Total pages: 4.		
No. 499	1-4	June 14, 1991
Total pages: 4.		

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51 as of November 4, 1991. Copies may be obtained from Textron Lycoming/Subsidiary of Textron Inc., Williamsport, PA 17701; telephone (717) 327-7278, fax (717) 327-7022. Copies may be inspected at the FAA, New England Region, Office of the Assistant Chief Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

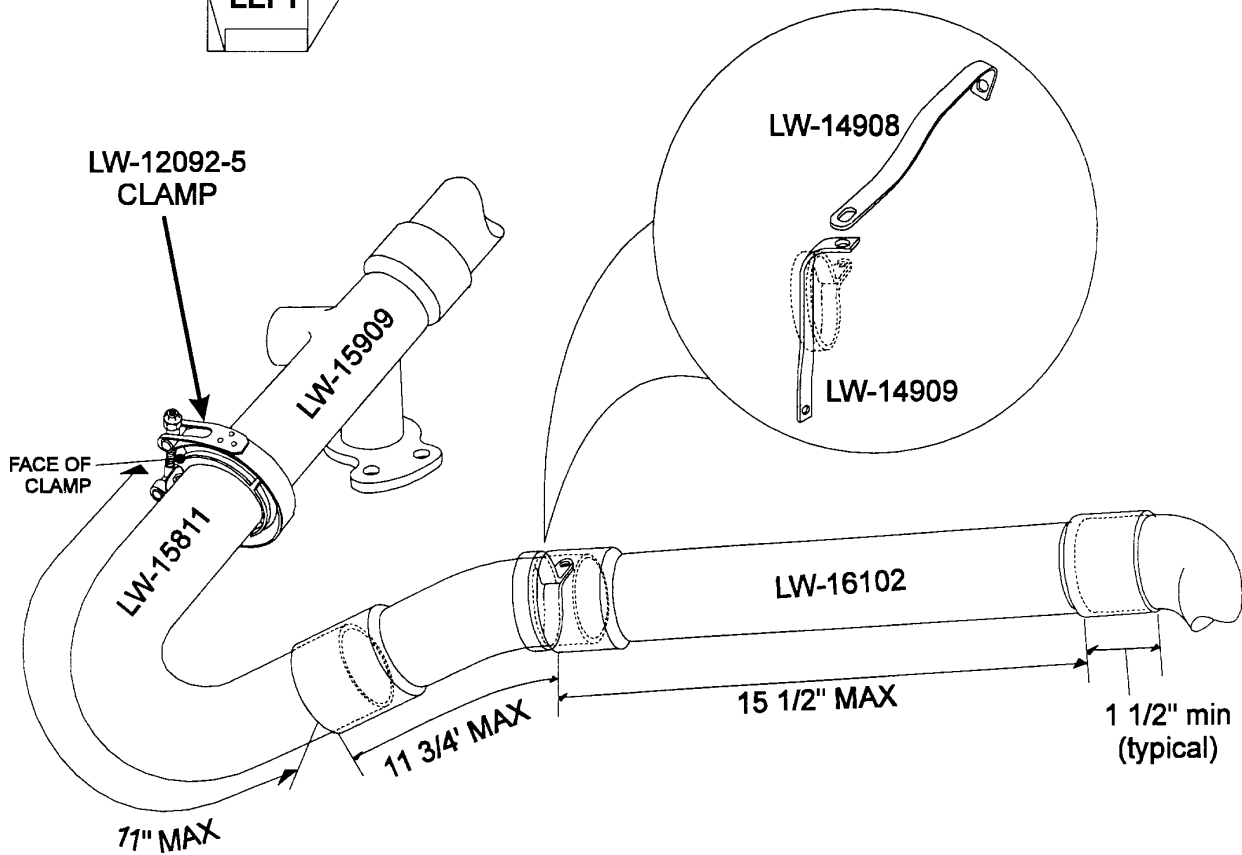
(f) This amendment becomes effective on June 27, 1996.

FOR FURTHER INFORMATION CONTACT: Richard Fiesel, Aerospace Engineer, New York Aircraft Certification Office, FAA, Engine and Propeller Directorate, 10 Fifth St., 3rd Floor, Valley Stream, NY 11581-1200; telephone (516) 256-7504, fax (516) 568-2716.

APPENDIX I
91-21-01 R1



VIEW-AFT LOOKING FORWARD
ON TOP OF ENGINE



NOTE: ALL DIMENSIONS TAKEN ON OUTSIDE
OF TUBE BENDS